

**WEST**  

L14: Entry 35 of 106

File: USPT

Jun 23, 1998

DOCUMENT-IDENTIFIER: US 5769080 A

TITLE: Gas filled liposomes and stabilized gas bubbles and their use as ultrasonic contrast agents

Brief Summary Text (17):

In a still further embodiment, the invention provides apparatus for preparing the liposomes of the invention using the vacuum drying gas instillation methods, said apparatus comprising: (i) a vessel containing liposomes; (ii) means for applying negative pressure to the vessel to draw liquid from the liposomes contained therein; (iii) a conduit connecting the negative pressurizing means to the vessel, the conduit directing the flow of said liquid; and (iv) means for introducing a gas into the liposomes in the vessel.

Detailed Description Text (32):

The liposomes thus prepared were placed in a vessel in an apparatus similar to that shown in FIG. 1, cooled to about -10.degree. C, and then subjected to high negative vacuum pressure. The temperature of the liposomes was then raised to about 10.degree. C. High negative vacuum pressure was maintained for about 48 hours. After about 48 hours, nitrogen gas was gradually instilled into the chamber over a period of about 4 hours, after which time the pressure returned to ambient pressure. The resulting vacuum dried gas instilled liposomes, the gas filled liposomes being substantially devoid of any liquid in the interior thereof, were then suspended in 10 cc of phosphate buffered saline and stored at about 4.degree. C. for about three months.

## WEST

 Generate Collection 

L14: Entry 39 of 106

File: USPT

Dec 30, 1997

DOCUMENT-IDENTIFIER: US 5702722 A

TITLE: Liposomes with enhanced entrapment capacity, method and use

Abstract Text (1):

The invention relates to a dry deposit as a precursor to liposome vesicles, the precursor being a three dimensional expanded structure with bulk density between 0.01 and 0.001 g/cm.<sup>sup.3</sup>. The invention also concerns a method of making liposome vesicles with an enhanced entrapment capacity by dissolving one or more film forming lipids in at least one organic solvent to form a solution in a reaction vessel, evaporating the solvent to form an expanded three dimensional porous lipid structure, contacting the lipid deposit with an aqueous carrier phase, and producing liposome vesicles entrapping the carrier phase as well as an apparatus comprising an array of tubing or an inert packing which serves as a material support or a matrix surface for the deposition of lipids produced according to the method.

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IBM Technical Disclosure Bulletins

**Database:****Search:**

L20

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**Search History**

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**DATE:** Thursday, January 09, 2003 [Printable Copy](#) [Create Case](#)

<u>Set Name</u>	<u>Query</u>	<u>Hit Count</u>	<u>Set Name</u>
side by side			result set
<i>DB=USPT,JPAB,EPAB,DWPI,TDBD; PLUR=YES; OP=OR</i>			
<u>L20</u>	L19 and aerosol	5	<u>L20</u>
<u>L19</u>	liposome\$ adj5 ethanol	88	<u>L19</u>
<u>L18</u>	liposome\$ same (mixed adj3 using)	19	<u>L18</u>
<u>L17</u>	liposome\$ same (mixed adj3 use)	0	<u>L17</u>
<u>L16</u>	liposome\$ same (mixed adj2 before)	14	<u>L16</u>
<u>L15</u>	liposome\$ same (mixed adj2 before adj2 use)	0	<u>L15</u>
<u>L14</u>	liposome\$ adj10 apparatus	106	<u>L14</u>
<u>L13</u>	L10 and mixer	58	<u>L13</u>
<u>L12</u>	L10 and micromixer	0	<u>L12</u>
<u>L11</u>	L10 and dentrifice\$	6	<u>L11</u>
<u>L10</u>	L9 and ((424/\$)!.CCLS.)	300	<u>L10</u>
<u>L9</u>	dispenser\$ same (compartments or chambers)	12391	<u>L9</u>
<u>L8</u>	(mouth adj1 wash\$) same chambers	15	<u>L8</u>
<u>L7</u>	L6 and ((424/\$)!.CCLS.)	69	<u>L7</u>
<u>L6</u>	mix\$ adj5 use	4635	<u>L6</u>
<u>L5</u>	L1 and chamber	27	<u>L5</u>
<u>L4</u>	L1 and microchamber	0	<u>L4</u>
<u>L3</u>	L1 and microreservoir	0	<u>L3</u>
<u>L2</u>	L1 and micromixer	0	<u>L2</u>
<u>L1</u>	liposome\$ adj5 apparatus	55	<u>L1</u>

END OF SEARCH HISTORY

**WEST** [Generate Collection](#) [Print](#)

L22: Entry 39 of 73

File: USPT

Nov 17, 1998

DOCUMENT-IDENTIFIER: US 5837282 A  
TITLE: Ionophore-mediated liposome loading

Brief Summary Text (8):

For drug encapsulation, there is a need to increase the trapping efficiency such that the drug to lipid ratio is as high as possible, while maintaining the original chemical integrity of both drug and lipid. Consequently, the drug loading process should be mild and not subject the lipids, liposomes or drugs to harsh conditions such as extreme pH, high temperatures, or both. Once administration to a patient has occurred, drug release is a factor. Rapid release of pharmaceuticals from liposomes reduce the biodistribution benefits sought in utilizing lipid vesicle carriers. Accordingly, efforts to optimize pharmaceutical loading and to reduce the rate of release of pharmaceuticals from lipid vesicles have continued. For clinical applications, the liposome formulations should be capable of existing stably in a formulated state or in a ready-to-mix kit to allow for shipping and storage.

Detailed Description Text (45):

The present invention also provides liposome compositions in kit form. The kit will typically be comprised of a container which is compartmentalized for holding the various elements of the kit. The kit will contain the compositions of the present inventions, preferably in dehydrated form, with instructions for their rehydration and administration. In still other embodiments, the drug-loaded liposomes will have a targeting moiety attached to the surface of the liposome. Methods of attaching targeting moieties (e.g., antibodies, proteins) to lipids (such as those used in the present particles) are known to those of skill in the art.

Current US Original Classification (1):424/450

**WEST** [Generate Collection](#) [Print](#)

L22: Entry 68 of 73

File: USPT

Jun 16, 1992

DOCUMENT-IDENTIFIER: US 5122450 A  
TITLE: Biochemical reagent

Current US Cross Reference Classification (1):  
424/450

## CLAIMS:

13. A biochemical assay kit comprising (1) an immobilized biochemical reagent as claimed in any one of claim 1, 3, 4, 5 or 6 in which said solid immobilizing carrier is a test plate and (2) at least one further reagent selected from a solution of a neoglycolipid of which the glyco group is the said oligosaccharide and a solution of liposome-forming components.
14. A biochemical assay kit comprising (1) an immobilized biochemical reagent as claimed in claim 11 in which said solid immobilizing carrier is a test plate, (2) a reagent comprising a solution of a neoglycolipid of which the glyco group is the said oligosaccharide and (3) a further reagent comprising a solution of liposome-forming components.
15. A biochemical assay kit comprising (1) an immobilized biochemical reagent as claimed in claim 12 in which said solid immobilizing carrier is a test plate, (2) a reagent comprising a solution of a neoglycolipid of which the glyco group is the said oligosaccharide and (3) a further reagent comprising a solution of liposome-forming components.
43. A biochemical assay kit comprising (1) an immobilized biochemical reagent as claimed in claim 41, in which said solid immobilizing carrier is a test plate (2) a reagent comprising solution of neoglycolipid of which the glyco group is the said oligosaccharide and (3) a further reagent comprising a solution of liposome-forming components.
44. A biochemical assay kit comprising (1) an immobilized biochemical reagent as claimed in claim 42, in which said solid immobilizing carrier is a test plate, (2) a reagent comprising solution of a neoglycolipid of which the glyco groups is the said oligosaccharide and (3) a further reagent comprising a solution of liposome-forming components.
45. A biochemical assay kit comprising (1) an immobilized biochemical reagent as claimed in any one of claims 31, 34, 37, 33 or 38, in which said solid immobilizing carrier is a test plate and (2) at least one further reagent selected from a solution of neoglycolipid of which the glyco group is the said oligosaccharide and a solution of liposome-forming components.

# WEST Search History

DATE: Thursday, January 09, 2003

<u>Set Name</u>	<u>Query</u>	<u>Hit Count</u>	<u>Set Name</u>
side by side			result set
<i>DB=USPT,JPAB,EPAB,DWPI,TDBD; PLUR=YES; OP=OR</i>			
L22	L21 and ((424/450 )!.CCLS. )	73	L22
L21	liposome\$ same kit\$	278	L21
L20	L19 and aerosol	5	L20
L19	liposome\$ adj5 ethanol	88	L19
L18	liposome\$ same (mixed adj3 using)	19	L18
L17	liposome\$ same (mixed adj3 use)	0	L17
L16	liposome\$ same (mixed adj2 before)	14	L16
L15	liposome\$ same (mixed adj2 before adj2 use)	0	L15
L14	liposome\$ adj10 apparatus	106	L14
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L5	L1 and chamber	27	L5
L4	L1 and microchamber	0	L4
L3	L1 and microreservoir	0	L3
L2	L1 and micromixer	0	L2
L1	liposome\$ adj5 apparatus	55	L1

END OF SEARCH HISTORY

**WEST** Generate Collection Print

L11: Entry 2 of 6

File: USPT

Jul 11, 2000

DOCUMENT-IDENTIFIER: US 6086856 A

TITLE: System for delivering foamed oral hygiene compositions

Brief Summary Text (5):

Formulations are known, many commercially available over-the-counter (OTC), for improving oral hygiene. Included are self-administrable OTC mouthwashes, rinses, gargles and dentrifices, as well as topical treatments to be administered by a trained professional. In general, the mouthwashes, rinses, gargles, and dentrifices for self-treatment are aqueous or aqueous alcoholic liquid solutions, pastes or gels incorporating one or more orally-acceptable antimicrobial, anti-plaque and/or anticariogenic agents, often in association with such auxiliary components as demulcents, mouth-wound cleansing and healing agents, astringents, analgesics, solution thickeners, sweeteners, flavorants, colorants and surfactants.

Brief Summary Text (12):

Also known, in art unrelated to oral hygiene, are driven, so-called propellantless devices for producing and dispensing foam that rely on the use of a reversibly compressible and decompressible container housing a foamable liquid and air normally at rest at substantially atmospheric pressure. Foam is produced by compressing, e.g. squeezing, the container, whereby the internal air pressure is increased sufficiently to force both liquid and air into a foam-producing mixing chamber and subsequently resulting in the expression of foam from the device. Allowing the container to decompress allows outside air to be drawn into the container through an appropriate valve and restore the system to its normal at rest, substantially atmospheric pressure, condition. Representative of such propellantless devices are those described in the following U.S. Patents: Wright U.S. Pat. No. 3,709,437; Kazuo U.S. Pat. Nos. 4,274,594 and 4,432,496; Grogan et al. U.S. Pat. No. 4,615,467; Ford et al. U.S. Pat. No. 4,640,440; Rosenberg U.S. Pat. No. 4,836,422; and Tobler U.S. Pat. No. 5,048,750. Collectively, these patents disclose that foam dispensers are useful for dispensing detergents, polishers, waxes, cosmetics, toiletries and foodstuffs. None disclose or suggest dispensing products relating to oral hygiene.

Brief Summary Text (21):

In yet another aspect, the invention provides new, foamable mouthcare formulations, including mouthwashes, rinses and dentrifices as new compositions of matter that are foamable with air or other molecular-oxygen-containing gas.

Brief Summary Text (28):

The mixing zone is conveniently the mixing chamber of a propellantless dispenser, more preferably such a device as described hereinafter.

Brief Summary Text (42):

The oral formulations that may be used in accordance with this invention include commercially available mouthwashes, rinses and dentrifices that either contain a sufficiency of a foam-promoting oral surfactant, or that are modified as exemplified hereinafter, to contain such sufficiency. Such sufficiency is readily determined by trial for any particular formulation without undue experimentation. The formulations normally comprise water or aqueous alcohol having up to about 25% ethanol, preferably less than 20%, as carrier solvent for one or more oral "actives," auxiliary components in minor amounts (including healing agents, demulcents, astringents, analgesics, sweeteners, solution thickeners, flavorants and colorants) and surfactants, preferably anionic, in foam-promoting amounts.

Current US Original Classification (1) :  
424/58

Current US Cross Reference Classification (1) :  
424/400

Current US Cross Reference Classification (2) :  
424/45

Current US Cross Reference Classification (3) :  
424/49

Current US Cross Reference Classification (4) :  
424/52

Current US Cross Reference Classification (5) :  
424/53

Current US Cross Reference Classification (6) :  
424/54

Current US Cross Reference Classification (7) :  
424/55

Current US Cross Reference Classification (8) :  
424/56

**WEST****Search Results - Record(s) 1 through 6 of 6 returned.** 1. Document ID: US 6117433 A

L11: Entry 1 of 6

File: USPT

Sep 12, 2000

US-PAT-NO: 6117433

DOCUMENT-IDENTIFIER: US 6117433 A

TITLE: Use of compositions comprising stabilized biologically effective compounds

DATE-ISSUED: September 12, 2000

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Edens; Lupo	Rotterdam			NL
Tan; Hong Sheng	Bleiswijk			NL
Lambers; Johannes Wilhelmus Jacobus	Pijnacker			NL

US-CL-CURRENT: 424/400, 424/401, 424/489, 424/499, 424/57, 424/70.1, 424/94.3,  
424/94.4, 424/94.5, 424/94.6, 424/94.63           
   2. Document ID: US 6086856 A

L11: Entry 2 of 6

File: USPT

Jul 11, 2000

US-PAT-NO: 6086856

DOCUMENT-IDENTIFIER: US 6086856 A

TITLE: System for delivering foamed oral hygiene compositions

DATE-ISSUED: July 11, 2000

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Saferstein; Albert	Virginia Beach	VA		
Fores; Gary Gerard	Sea Cliff	NY		

US-CL-CURRENT: 424/58, 424/400, 424/45, 424/49, 424/52, 424/53, 424/54, 424/55,  
424/56

3. Document ID: US 5665332 A

L11: Entry 3 of 6

File: USPT

Sep 9, 1997

US-PAT-NO: 5665332

DOCUMENT-IDENTIFIER: US 5665332 A

TITLE: System for delivering foams containing medicaments

DATE-ISSUED: September 9, 1997

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Mundschenk; David D.	Dania	FL		
Saferstein; Albert	Armonk	NY		
Fores; Gary Gerard	Sea Cliff	NY		

US-CL-CURRENT: 424/49; 424/44, 424/53, 424/56, 424/58, 424/616

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
Draw Desc		Image							

KMC

 4. Document ID: US 4776500 A

L11: Entry 4 of 6

File: USPT

Oct 11, 1988

US-PAT-NO: 4776500

DOCUMENT-IDENTIFIER: US 4776500 A

TITLE: Therapeutic dentifrice dispenser

DATE-ISSUED: October 11, 1988

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ford; Christopher W.	Grosse Pointe Shores	MI	48236	

US-CL-CURRENT: 222/402.1; 222/402.12, 424/53

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
Draw Desc		Image							

KMC

 5. Document ID: US 4569838 A

L11: Entry 5 of 6

File: USPT

Feb 11, 1986

US-PAT-NO: 4569838

DOCUMENT-IDENTIFIER: US 4569838 A

TITLE: Dentifrice

DATE-ISSUED: February 11, 1986

## INVENTOR-INFORMATION:

NAME de Vries; Marijke S.	CITY Upper Montclair	STATE NJ	ZIP CODE	COUNTRY
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US-CL-CURRENT: 424/49

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	KWMC
Draw Desc	Image									

 6. Document ID: US 4562066 A

L11: Entry 6 of 6

File: USPT

Dec 31, 1985

US-PAT-NO: 4562066

DOCUMENT-IDENTIFIER: US 4562066 A

TITLE: Astringent dentifrice containing monofluorophosphate

DATE-ISSUED: December 31, 1985

## INVENTOR-INFORMATION:

NAME Hayes; Harry	CITY Warrington	STATE	ZIP CODE	COUNTRY GB2
Harvey; Kenneth	Wilmslow			GB2

US-CL-CURRENT: 424/52; 424/49

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	KWMC
Draw Desc	Image									

Terms	Documents
L10 and dentifice\$	6

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L13: Entry 13 of 58

File: USPT

Mar 14, 2000

DOCUMENT-IDENTIFIER: US 6036493 A  
TITLE: Dental bleaching system and method

Detailed Description Text (10):

Both the gel-gel composition and the liquid powder composition can be dispensed through commercially available dispensers. The gel-gel composition can be dispensed in an automatically mixed proportion both accurately and safely so that it is convenient for the user. One simple method of mixing a gel-gel composition is to use two separate syringes. With this method equal or preferred amounts of each component can be easily and accurately placed on a mixing pad. Since both components are gels, there is no chance for spilling. Another method is to use a conventional static mixer for automatically mixing the two components in any desired preset ratio. This type of dispenser is well known for use in dispensing dental impression materials. Each component is separately stored in an individual compartment of the dispenser separated from one another and intermixed only upon use through a static mixing element attached to the discharge end of the dispenser. The dispenser can be used to dispense the mixed components directly upon the tooth or teeth to be bleached.

Current US Cross Reference Classification (1):

424/49

Current US Cross Reference Classification (2):

424/53

## CLAIMS:

17. A method of automatically dispensing a bleaching composition directly upon a tooth or teeth to be bleached from a dual compartment dispensing syringe comprising the steps of formulating a first component consisting essentially of hydrogen peroxide and fumed silica in a viscous gel consistency and a second component consisting essentially of a silica gelling agent, an alkanolamine, a catalyst and a color indicator to provide a distinct visible color to the naked eye when the bleaching treatment has effectively terminated, said color indicator consisting essentially of a redox color indicator adapted to oxidize in the presence of a peroxide from a visible color into a neutralized color and a second dye stable in the presence of a peroxide with the concentration of the redox color indicator selected relative to the second dye such that the redox color will be predominant during the bleaching operation and the second dye will be predominant at the end of a controlled time period corresponding to when the bleaching treatment may be discontinued and with the second component concentration selected to form a gel consistency, placing each component in a separate compartment of a dual compartment dispensing syringe so that each component is isolated from each other, attaching a static mixer to the discharge end of the dispensing syringe, depressing each compartment of the dual compartment dispensing syringe so that the components are discharged simultaneously through the static mixer to cause the first and second components to intermix automatically from the dispensing syringe as it is dispensed directly onto the tooth or teeth to be bleached.

**WEST** [Generate Collection](#) [Print](#)

L13: Entry 21 of 58

File: USPT

Oct 12, 1999

DOCUMENT-IDENTIFIER: US 5965115 A  
TITLE: Personal care compositions

Brief Summary Text (241):

Alternatively, pressurized aerosol dispensers can be used where the propellant is separated from contact with the composition such as a two compartment can of the type sold under the tradename SEPRO from American National Can Corp.

Brief Summary Text (251):

2. When a high viscosity has been reached a specially designed high viscosity mixing device, e.g., a dough mixer, may be used. The system is mixed for many hours until reaction completeness can be verified analytically (titration, FTI, or pH), typically up to about 12 hours. A nitrogen blanketed, enclosed system or the like is preferably used to minimize solvent loss during the mix time.

Brief Summary Text (265):

7. Mill the system with a high shear mixer such as made by Teckmar for at least 10 minutes.

Current US Original Classification (1):424/70.12Current US Cross Reference Classification (1):424/401Current US Cross Reference Classification (2):424/61Current US Cross Reference Classification (3):424/78.03

**WEST** [Generate Collection](#) [Print](#)

L13: Entry 23 of 58

File: USPT

Dec 8, 1998

DOCUMENT-IDENTIFIER: US 5846570 A

TITLE: Stabilized hydrogen peroxide gel compositions

Detailed Description Text (21):

Typical of the present invention is a peroxide gel composition whose formulation is detailed under Table I. The formulation of Table I may be utilized either separately or in combination with a bicarbonate composition detailed under Table II, each of the compositions being held in a separate compartment of a dual compartment dispenser.

Detailed Description Text (25):

Gel compositions having the same ingredients (except for different dye and phosphoric acid concentrations) as that identified under Table I of Example 1 were herein evaluated. Set A compositions were processed under ultra clean conditions. Set B compositions were processed under production type conditions in stainless steel mixers. Table III outlines the results of these tests.

Detailed Description Paragraph Table (3):

TABLE III

Peroxide Stability Results*	CONTROL SAMPLE 2 (0.005% DYE AND SAMPLE 1 (0.01% (0.005% DYE AND SAMPLE 3 (0.01% 0.15% DYE AND 0.30% 0.30% DYE AND 0.15% PROCESS PEROXIDE PHOSPHORIC PHOSPHORIC PHOSPHORIC PHOSPHORIC CONDITIONS CONCENTRATION ACID) PERCENT ACID) PERCENT ACID) PERCENT SET (WEIGHT %) RECOVERY RECOVERY RECOVERY RECOVERY	A
4.0 79 94 95 90 A 6.0 83 93 94 91 B 3.0 -- 97 92 88 (batch mixer not fully passivated)		
B 3.0 -- 96 94 87 (mixer fully passivated)		

\*FD&amp;C Blue

1 was used as the dye; similar results were obtained with FD&amp;C Green 3.

Current US Original Classification (1):

424/616

Current US Cross Reference Classification (1):

424/53

Current US Cross Reference Classification (2):

424/57

**WEST** [Generate Collection](#) [Print](#)

L13: Entry 27 of 58

File: USPT

Aug 26, 1997

DOCUMENT-IDENTIFIER: US 5660847 A

TITLE: Implantable delivery dispenser comprising exit port

Abstract Text (1):

An implantable dispenser is enclosed comprising a wall surrounding a compartment containing a first composition comprising a beneficial agent, an oil, a cosolvent and a polymer gellant, a second expandable composition, a third boundary maintaining composition between the first and second composition, and an exit port.

Detailed Description Text (3):

Turning now to the drawing figures in detail, which drawing figures are examples of various implantable delivery dispensers provided by the invention, and which examples are not to be construed as limiting the invention, one example of an implantable delivery dispenser is seen in FIG. 1 and identified by the number 10. In FIG. 1, the implantable dispenser comprises a body 11, which body 11 comprises a wall 12. Wall 12 surrounds an internal compartment, not seen in FIG. 1. Implant dispenser 10 comprises at least one passageway 13 for delivering a beneficial agent formulation from implant dispenser 10. In FIG. 1, in the embodiment illustrated, implant dispenser 10 comprises a domed-shaped lead end 9 and a similar domed-shaped rear end 8 for aiding in placing implant dispenser 10 in an animal host. In an optional embodiment not seen, implant dispenser 10 can be manufactured with flat ends 8 and 9, or other shaped ends.

Detailed Description Text (5):

Drawing FIG. 2 depicts implant 10 in opened view through 2--2 of implant dispenser 10 as seen in FIG. 1. Implant dispenser 10 of FIG. 2 comprises body 11, wall 12, lead end 9, trailing end 8 and exit passageway 13. Wall 12 surrounds and defines an internal compartment 14. Wall 12, in a presently preferred embodiment, comprises a wall-forming composition that is permeable to the passage of aqueous and biological fluids and it is substantially impermeable to the passage of a beneficial agent 15 and other ingredients contained in implant dispenser 10. Wall 12, in another embodiment, comprises at least in part a wall-forming composition permeable to the passage of aqueous-type fluids. Wall 12 is permeable in total or in part for making available external aqueous-type fluid to an expandable composition housed in compartment 14. Lead end 9 and trailing end 8 can be made continuous with wall 12 or, in another manufacture lead end 9 and trailing end 8 can be made separately of the same or of a different composition that are fixed or releasably joined to wall 12. In one presently preferred manufacture, trailing end 8 comprises a composition permeable to the passage of an exterior fluid for making it available to an expandable driving composition 19 in compartment 14. Wall 12, and ends 9 and 8, optionally comprise a wall-forming composition which is a means for increasing or for decreasing the permeability of wall 12 and ends 9 and 8 to the passage of an external fluid. Wall 12 optionally comprises a non-toxic plasticizer that imparts flexibility and workability to wall 12. Wall 12, ends 9 and 8 are essentially non-toxic, and they maintain their physical and chemical integrity during the beneficial agent delivery period.

Detailed Description Text (8):

Drawing FIG. 3 illustrates an opened view of another embodiment of the implantable dispenser 10. In drawing FIG. 3, implant 10 comprises body 11, wall 12, exit passageway 13, compartment 14, beneficial agent 15, oil 16, gellant 17, cosolvent 18, push composition 19, osmagent 20, and fluid impervious push transferring layer 21. In drawing FIG. 3, implant 10 comprises a lead or head cap 9 that closes lead end 9 of

wall 12. Implant 10 comprises an end cap 8 adapted to close the end of wall 12. Caps 9 and 8 can be made by injection molding, pressing, or the like into a shape that engages and closes the lead and end of wall 12. End cap 8, in a presently preferred manufacture, is permeable to the passage of water and biological fluids.

Detailed Description Text (9):

Drawing FIG. 4 illustrates another implant 10 provided by the invention. In drawing FIG. 4, implant 10 comprises lead end 9, rear end 8, body 11, wall 12, exit port 13, compartment 14, beneficial agent 15, oil 16, gellant polymer 17, cosolvent 18, push transmitting layer 21, push composition 19 and osmagent 20. In drawing FIG. 4, implant 10 comprises an outer coat 22 that covers a major area of wall 12, particularly the wall area that surrounds the beneficial composition 15. Coat 22, in the embodiment illustrated, is in contact with the complete exterior surface of wall 12, except for rear end 8, which rear end 8 permits the passage of aqueous fluids into push composition 19. Accompanying FIG. 5, in another embodiment, illustrates dispenser 10 wherein coat 22 surrounds the complete exterior surface of wall 12, with the proviso that coat 22 is semipermeable in at least the area adjacent to end cap 8 and allows for the passage of exterior fluid into end cap 8. In another manufacture not shown, coat 22 is in contact with the exterior surface of wall 12 that corresponds to the interior area occupied by the beneficial agent composition. In this embodiment, coat 22 comprises a composition impermeable to the passage of an exterior aqueous fluid, also in this embodiment the exterior surface of wall 12 that corresponds to the internal area occupied by push composition 19 can be (a) coated with a coating composition permeable to fluid for making fluid available to wall 12, or the exterior surface corresponding to the push member 19 can (b) remain free of the exterior coat 22, thereby making fluid available to the exterior surface of wall 12.

Detailed Description Text (14):

In accordance with the practice of this invention it now has been discovered that implant dispenser 10, as seen in FIGS. 2-6, can be made with a wall 12 that surrounds compartment 14. Wall 12 comprises materials that do not adversely affect the beneficial agent, the pharmaceutically acceptable oil, the pharmaceutically acceptable polymer, the expandable driving member, the cosolvent and other ingredients in compartment 14, a host, and the like. Wall 12, in one preferred manufacture comprises a semipermeable composition that controls fluid flux into implant 10. In another preferred embodiment wall 12 comprises at least in part a semipermeable composition that controls fluid flux, with the remaining part substantially impermeable to the passage of fluid. Wall 12 in another embodiment comprises a semipermeable composition and means for aiding in regulating the fluid flux of wall 12. In an optional embodiment, wall 12 comprises a non-toxic plasticizer for imparting manufacturing properties to wall 12.

Detailed Description Text (47):

An implant dispenser for delivering a beneficial agent to livestock is prepared according to this example. First, an expandable push composition shaped like a tablet is prepared according to the accompanying procedure. Using a 12 mesh screen, size 6,466 grams of sodium chloride for use in the granulation. Next, weigh out 13 kilograms of Sodium Carbomer.RTM., a carboxyvinyl polymer, 5.627 kilograms of the sodium chloride sized above and 0.776 kilograms of Povidone.RTM., USP, a polyvinylpyrrolidone, into a clean mixing vessel. Mix the three ingredients in a Hobart.RTM. mixer for four minutes at speed setting one. Into a separate vessel, weigh the following ingredients: 7 liters of ethanol (95% USP) and 370 liters of purified water. The solution of ethanol/water is slowly added to the powder mixture above, and mixed for 14 minutes on speed setting 2 to achieve an even consistency. This wet granulation is passed through a 1 mesh stainless steel screen using a conventional granulator machine. The granules are then spread to a depth of approximately 1/2 inch on paper lined oven trays and dried at 50.degree. C. for 15 hours. The dried granules are then passed through a 12 mesh stainless screen. The resultant material weighs 20,400 grams. Next, 206 grams of lubricant are passed through a 40 mesh screen and added to the dried granulation above and mixed for 2 minutes at slow speed. Moisture content of the completed granulation of 20,302 grams is 6.8%. Tablets of the above formulation are compressed on a laboratory scale Carver.RTM. press using 0.107" round, flat faced tooling. Approximately 45 mg of granulation is placed into the die cavity and compressed to produce tablets with

heights of 0.185 inch (average) and weights of 0.045.+-0.002 grams.

Detailed Description Text (48):

Next, a wall housing member is prepared according to the accompanying procedure. First, using a Brabender 50 cc bowl mixer heated to 150.degree. C., add 12 grams of polymethyl methacrylate, (PMMA), and mix at 40 RPM to fuse the material. Then, 5 grams of tributyl citrate is added to soften the polymethyl methacrylate (PMMA). While the PMMA is softening, lower the temperature to 110.degree. C. In another mixing vessel, and 5 grams of tributyl citrate to 28 grams of cellulose acetate butyrate, and mix using a spatula; then add this mixture to the mixture in the Brabender bowl. The temperature in the Brabender mixer is then raised to 180.degree.-190.degree. C. to complete the melt of the cellulose acetate butyrate. The temperature is maintained for five minutes at the higher temperature, then over the course of 20 minutes, lower the temperature back to 110.degree. C. The material is then removed from the bowl and prepared for feeding to the extruder by chopping it into small pieces. Then feed the above material into a 3/4" Brabender extruder equipped with an extrusion die with the following dimensions: Die O.D.: 0.160"; Mandrel O.D.: 0.140". Tubing is fabricated under the following extrusion conditions: Barrel Temperature setting: 210.degree. F.; Die Temperature setting: 225.degree. F., Rod: 135.degree.-140.degree. C.; Pressure (PSI): 2000 PSI; Take-up speed: 1.6 ft/min.; and, Screw RPM: 4.

Detailed Description Text (49):

The pharmaceutically acceptable vehicle/carrier is a mixture of ethylene vinyl acetate copolymer (40% vinyl acetate content) and sesame oil. Weigh out 6.0015 grams of copolymer 40 and add to 40 ml of sesame oil in a 100 ml beaker. Cover the beaker with aluminum foil and place in a water bath which has been situated on a heat/stir plate. The water bath is maintained at 80.degree. C., and the stir mechanism turned on. A stir rod is added to the beaker to ensure adequate mixing of components. The mixture is heated and mixed under these conditions for approximately 6 to 7 hours. The mixture is then homogenized with a Polytron.RTM. tissue homogenizer (high shear mixer) for 3 minutes then allowed to cool to room temperature.

Detailed Description Text (55):

Coating solution is prepared as follows: Measure 3472 ml of methylene chloride into a mixing vessel and place in a hood equipped with a solution mixer. Slowly add 59.5 grams of polymethyl methacrylate to the methylene chloride while mixing continuously. Continue mixing for 11/2 hours. Then, slowly add 89.25 grams of cellulose acetate butyrate, and 16.53 grams of tributyl citrate (plasticizer). Mix for approximately 1/2 hour. Next add 305 ml methanol and mix for an additional 1 hour.

Current US Original Classification (1):

424/424

Current US Cross Reference Classification (1):

424/486

Current US Cross Reference Classification (2):

424/488

# WEST Search History

DATE: Thursday, January 09, 2003

<u>Set Name</u>	<u>Query</u>	<u>Hit Count</u>	<u>Set Name</u>
side by side			result set
<i>DB=USPT,JPAB,EPAB,DWPI,TDBD; PLUR=YES; OP=OR</i>			
L13	L10 and mixer	58	L13
L12	L10 and micromixer	0	L12
L11	L10 and dentrifice\$	6	L11
L10	L9 and ((424/\$)!..CCLS.)	300	L10
L9	dispenser\$ same (compartments or chambers)	12391	L9
L8	(mouth adj1 wash\$) same chambers	15	L8
L7	L6 and ((424/\$)!..CCLS.)	69	L7
L6	mix\$ adj5 use	4635	L6
L5	L1 and chamber	27	L5
L4	L1 and microchamber	0	L4
L3	L1 and microreservoir	0	L3
L2	L1 and micromixer	0	L2
L1	liposome\$ adj5 apparatus	55	L1

END OF SEARCH HISTORY

**WEST****Search Results - Record(s) 1 through 15 of 15 returned.**

1. Document ID: US 6179153 B1

L8: Entry 1 of 15

File: USPT

Jan 30, 2001

US-PAT-NO: 6179153

DOCUMENT-IDENTIFIER: US 6179153 B1

TITLE: Two-chamber container with changeable upper cover

DATE-ISSUED: January 30, 2001

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Huang; Ching-An	Taipei			TW

US-CL-CURRENT: 220/553; 215/6

<a href="#">Full</a>	<a href="#">Title</a>	<a href="#">Citation</a>	<a href="#">Front</a>	<a href="#">Review</a>	<a href="#">Classification</a>	<a href="#">Date</a>	<a href="#">Reference</a>	<a href="#">Sequences</a>	<a href="#">Attachments</a>
<a href="#">Draw Desc</a>		<a href="#">Image</a>							

KWMC

2. Document ID: US 5907887 A

L8: Entry 2 of 15

File: USPT

Jun 1, 1999

US-PAT-NO: 5907887

DOCUMENT-IDENTIFIER: US 5907887 A

TITLE: Floor washing apparatus

DATE-ISSUED: June 1, 1999

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Mansur; Pierre G.	Miami	FL		

US-CL-CURRENT: 15/320; 15/353

<a href="#">Full</a>	<a href="#">Title</a>	<a href="#">Citation</a>	<a href="#">Front</a>	<a href="#">Review</a>	<a href="#">Classification</a>	<a href="#">Date</a>	<a href="#">Reference</a>	<a href="#">Sequences</a>	<a href="#">Attachments</a>
<a href="#">Draw Desc</a>		<a href="#">Image</a>							

KWMC

3. Document ID: US 5447684 A

L8: Entry 3 of 15

File: USPT

Sep 5, 1995

US-PAT-NO: 5447684

DOCUMENT-IDENTIFIER: US 5447684 A

TITLE: Sterilization devices, sporicidal compositions, sterilization methods, and devices for reducing surface tension

DATE-ISSUED: September 5, 1995

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Williams; Robert M.	Washington	DC	20011	

US-CL-CURRENT: 422/20; 422/28, 422/292, 422/33, 422/34, 422/35, 422/36, 422/37,  
510/112, 510/161, 510/382, 510/383, 516/DIG.4

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
Draw Desc		Image							

KMC

4. Document ID: US 5107987 A

L8: Entry 4 of 15

File: USPT

Apr 28, 1992

US-PAT-NO: 5107987

DOCUMENT-IDENTIFIER: US 5107987 A

TITLE: Toothbrush holder

DATE-ISSUED: April 28, 1992

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Palazzolo; Frank J.	Harper Woods	MI	48225	
Stone; Joel L.	Grosse Pointe Park	MI	48230	

US-CL-CURRENT: 206/209.1; 206/362.1, 422/300

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
Draw Desc		Image							

KMC

5. Document ID: US 4961698 A

L8: Entry 5 of 15

File: USPT

Oct 9, 1990

US-PAT-NO: 4961698

DOCUMENT-IDENTIFIER: US 4961698 A

TITLE: Ultrasonic device with additive chamber

DATE-ISSUED: October 9, 1990

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Vlock; David G.	New York	NY	10011-8857	

US-CL-CURRENT: 433/86; 433/119, 433/88

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
Draw Desc	Image								

KMC

 6. Document ID: US 4660746 A

L8: Entry 6 of 15

File: USPT

Apr 28, 1987

US-PAT-NO: 4660746

DOCUMENT-IDENTIFIER: US 4660746 A

TITLE: Mouthwash dispenser

DATE-ISSUED: April 28, 1987

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Wright; David M.	Evansville	IN		

US-CL-CURRENT: 222/207; 141/380, 222/211, 222/212

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
Draw Desc	Image								

KMC

 7. Document ID: US 4397616 A

L8: Entry 7 of 15

File: USPT

Aug 9, 1983

US-PAT-NO: 4397616

DOCUMENT-IDENTIFIER: US 4397616 A

TITLE: Pump driving mechanism

DATE-ISSUED: August 9, 1983

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Tanabe; Toshio	Osaka			JP
Yasunaka; Shinsaku	Osaka			JP

US-CL-CURRENT: 417/362; 417/415, 74/49, 92/137, 92/84

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
Draw Desc	Image								

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 8. Document ID: JP 05171666 A

L8: Entry 8 of 15

File: JPAB

Jul 9, 1993

PUB-NO: JP405171666A

DOCUMENT-IDENTIFIER: JP 05171666 A

TITLE: MULTIPURPOSE WATER DISCHARGER WITH SUCTION APPARATUS AND WASH STAND WITH SAID  
WATER DISCHARGER

PUBN-DATE: July 9, 1993

INVENTOR-INFORMATION:

NAME	COUNTRY
MORIZAKI, MASATOMO	
IMAZONO, MASAHIKO	
MATSUDA, EIJI	

US-CL-CURRENT: 4/638; 4/654

INT-CL (IPC): E03C 1/14; A47K 1/00; A61C 17/02

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
Draw Desc	Clip Img	Image							KOMC

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9. Document ID: JP 04175474 A

L8: Entry 9 of 15

File: JPAB

Jun 23, 1992

PUB-NO: JP404175474A

DOCUMENT-IDENTIFIER: JP 04175474 A

TITLE: WATER PUMP

PUBN-DATE: June 23, 1992

INVENTOR-INFORMATION:

NAME	COUNTRY
KIMURA, ROKUSABURO	
YUGAWA, KAZUHIKO	

US-CL-CURRENT: 417/229

INT-CL (IPC): F04B 9/04

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
Draw Desc	Clip Img	Image							KOMC

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10. Document ID: DE 29921192 U1

L8: Entry 10 of 15

File: DWPI

Mar 16, 2000

DERWENT-ACC-NO: 2000-305210

DERWENT-WEEK: 200139

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TITLE: Fluid container for a mouth washer has two separate fluid chambers each having a fluid outlet leading to the base valve

PRIORITY-DATA: 1999DE-2021192 (December 3, 1999)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
DE 29921192 U1	March 16, 2000		007	A61C017/02

INT-CL (IPC) : A61 C 17/02

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
Draw	Desc	Clip	Img	Image					

KMC

 11. Document ID: SU 1284503 A

L8: Entry 11 of 15

File: DWPI

Jan 23, 1987

DERWENT-ACC-NO: 1987-248851

DERWENT-WEEK: 198735

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TITLE: Water spray face washer - has drinking nozzle valve operating rod fitted with sealing rings which close face wash water discharge opening.

INVENTOR: GIRYA, A L; KALCHENKO, V D ; VERCHENKO, A V

PRIORITY-DATA: 1985SU-3877869 (April 8, 1985)

## PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
SU 1284503 A	January 23, 1987		002	

INT-CL (IPC) : A47K 1/00

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
Draw	Desc	Clip	Img	Image					

KMC

 12. Document ID: DE 3131995 A CH 655766 A DE 3131995 C

L8: Entry 12 of 15

File: DWPI

Feb 24, 1983

DERWENT-ACC-NO: 1983-C8487K

DERWENT-WEEK: 198309

COPYRIGHT 2003 DERWENT INFORMATION LTD

TITLE: Piston pump for mouth wash - has two bores next to pump pressure chamber, one closable by member acting against pump pressure

INVENTOR: PETZ, G

PRIORITY-DATA: 1981DE-3131995 (August 13, 1981)

## PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
DE 3131995 A	February 24, 1983		010	
CH 655766 A	May 15, 1986		000	
DE 3131995 C	May 8, 1991		000	

INT-CL (IPC) : A61C 17/02; F04B 49/02

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
Draw	Desc	Clip	Img	Image					

KMC

13. Document ID: US 4257538 A

L8: Entry 13 of 15

File: DWPI

Mar 24, 1981

DERWENT-ACC-NO: 1981-D3812D

DERWENT-WEEK: 198115

COPYRIGHT 2003 DERWENT INFORMATION LTD

TITLE: Metering dispenser for e.g. mouth-wash - has double-acting valve in container outlet for filling and emptying measuring chamber

INVENTOR: FOWLER, J H

PRIORITY-DATA: 1978US-0958734 (November 8, 1978)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
US 4257538 A	March 24, 1981		000	

INT-CL (IPC): B67D 5/06; G01F 11/28

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	KMC
Draw Desc	Image									

 14. Document ID: DE 2346907 A

L8: Entry 14 of 15

File: DWPI

Mar 27, 1975

DERWENT-ACC-NO: 1975-22718W

DERWENT-WEEK: 197514

COPYRIGHT 2003 DERWENT INFORMATION LTD

TITLE: Metering concentrates into water - using in line injector with drop counter to measure quantity

PRIORITY-DATA: 1973DE-2346907 (September 18, 1973)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
DE 2346907 A	March 27, 1975		000	

INT-CL (IPC): A61C 17/02; B01F 5/00; E03C 1/04

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	KMC
Draw Desc	Image									

 15. Document ID: DE 2425518 A CH 569905 A FR 2238103 A GB 1456322 A

L8: Entry 15 of 15

File: DWPI

Feb 6, 1975

DERWENT-ACC-NO: 1975-B7689W

DERWENT-WEEK: 197507

COPYRIGHT 2003 DERWENT INFORMATION LTD

TITLE: Flow interrupter for mouthwasher - magnetic closure element attracted to close outlet opening by further element

PRIORITY-DATA: 1973CH-0010632 (July 20, 1973)

**PATENT-FAMILY:**

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
DE 2425518 A	February 6, 1975		000	
CH 569905 A	November 28, 1975		000	
FR 2238103 A	March 21, 1975		000	
GB 1456322 A	November 24, 1976		000	

INT-CL (IPC) : A61C 17/02; B05B 1/08; F16K 1/12; F16K 31/08

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KUMC

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Terms	Documents
(mouth adj1 wash\$) same chambers	15

[Display Format:](#) [Previous Page](#)    [Next Page](#)

**WEST****Search Results - Record(s) 1 through 27 of 27 returned.** 1. Document ID: US 6443898 B1

L5: Entry 1 of 27

File: USPT

Sep 3, 2002

US-PAT-NO: 6443898

DOCUMENT-IDENTIFIER: US 6443898 B1

TITLE: Therapeutic delivery systems

DATE-ISSUED: September 3, 2002

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Unger; Evan C.	Tucson	AZ		
Fritz; Thomas A.	Tucson	AZ		
Matsunaga; Terry	Tucson	AZ		
Ramaswami; VaradaRajan	Tucson	AZ		
Yellowhair; David	Tucson	AZ		
Wu; Guanli	Tucson	AZ		

US-CL-CURRENT: 600/458; 424/450, 424/9.51

<input type="button" value="Full"/>	<input type="button" value="Title"/>	<input type="button" value="Citation"/>	<input type="button" value="Front"/>	<input type="button" value="Review"/>	<input type="button" value="Classification"/>	<input type="button" value="Date"/>	<input type="button" value="Reference"/>	<input type="button" value="Sequences"/>	<input type="button" value="Attachments"/>	<input type="button" value="Claims"/>	<input type="button" value="KMC"/>
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 2. Document ID: US 6120795 A

L5: Entry 2 of 27

File: USPT

Sep 19, 2000

US-PAT-NO: 6120795

DOCUMENT-IDENTIFIER: US 6120795 A

TITLE: Manufacture of liposomes and lipid-protein complexes by ethanolic injection and thin film evaporation

DATE-ISSUED: September 19, 2000

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Klimchak; Robert Joseph	Flemington	NJ		
Glavinos, Jr., deceased; Peter G.	late of Dayton	OH		

US-CL-CURRENT: 424/450; 424/1.21, 514/12, 514/2

<input type="button" value="Full"/>	<input type="button" value="Title"/>	<input type="button" value="Citation"/>	<input type="button" value="Front"/>	<input type="button" value="Review"/>	<input type="button" value="Classification"/>	<input type="button" value="Date"/>	<input type="button" value="Reference"/>	<input type="button" value="Sequences"/>	<input type="button" value="Attachments"/>	<input type="button" value="Claims"/>	<input type="button" value="KMC"/>
<input type="button" value="Draw Desc"/>	<input type="button" value="Image"/>										

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 3. Document ID: US 6001335 A

L5: Entry 3 of 27

File: USPT

Dec 14, 1999

US-PAT-NO: 6001335

DOCUMENT-IDENTIFIER: US 6001335 A

TITLE: Contrasting agents for ultrasonic imaging and methods for preparing the same

DATE-ISSUED: December 14, 1999

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Unger; Evan C.	Tucson	AZ		

US-CL-CURRENT: 424/9.52; 264/4, 264/4.1, 424/450, 424/9.51, 427/2.14, 427/213.3,  
428/402.2

<a href="#">Full</a>	<a href="#">Title</a>	<a href="#">Citation</a>	<a href="#">Front</a>	<a href="#">Review</a>	<a href="#">Classification</a>	<a href="#">Date</a>	<a href="#">Reference</a>	<a href="#">Sequences</a>	<a href="#">Attachments</a>
<a href="#">Draw Desc</a>   <a href="#">Image</a>									KWIC

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 4. Document ID: US 5985246 A

L5: Entry 4 of 27

File: USPT

Nov 16, 1999

US-PAT-NO: 5985246

DOCUMENT-IDENTIFIER: US 5985246 A

TITLE: Contrast agents for ultrasonic imaging and methods for preparing the same

DATE-ISSUED: November 16, 1999

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Unger; Evan C.	Tucson	AZ		

US-CL-CURRENT: 424/9.51; 264/4, 424/450, 424/9.52, 427/213.3, 428/402.2

<a href="#">Full</a>	<a href="#">Title</a>	<a href="#">Citation</a>	<a href="#">Front</a>	<a href="#">Review</a>	<a href="#">Classification</a>	<a href="#">Date</a>	<a href="#">Reference</a>	<a href="#">Sequences</a>	<a href="#">Attachments</a>
<a href="#">Draw Desc</a>   <a href="#">Image</a>									KWIC

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 5. Document ID: US 5770222 A

L5: Entry 5 of 27

File: USPT

Jun 23, 1998

US-PAT-NO: 5770222

DOCUMENT-IDENTIFIER: US 5770222 A

TITLE: Therapeutic drug delivery systems

DATE-ISSUED: June 23, 1998

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Unger; Evan C.	Tucson	AZ		
Fritz; Thomas A.	Tucson	AZ		
Matsunaga; Terry	Tucson	AZ		
Ramaswami; VaradaRajan	Tucson	AZ		
Yellowhair; David	Tucson	AZ		
Wu; Guanli	Tucson	AZ		

US-CL-CURRENT: 424/450; 264/4.1, 264/4.3, 264/4.6, 424/1.21, 424/489, 424/9.321,  
424/9.51, 436/829

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	KMNC
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6. Document ID: US 5769080 A

L5: Entry 6 of 27

File: USPT

Jun 23, 1998

US-PAT-NO: 5769080

DOCUMENT-IDENTIFIER: US 5769080 A

TITLE: Gas filled liposomes and stabilized gas bubbles and their use as ultrasonic contrast agents

DATE-ISSUED: June 23, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Unger; Evan C.	Tucson	AZ		
Wu; Guanli	Tucson	AZ		

US-CL-CURRENT: 600/458; 424/9.52

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	KMNC
Draw Desc	Image									

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7. Document ID: US 5626751 A

L5: Entry 7 of 27

File: USPT

May 6, 1997

US-PAT-NO: 5626751

DOCUMENT-IDENTIFIER: US 5626751 A

TITLE: Filter unit and high-pressure sizing apparatus

DATE-ISSUED: May 6, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Kikuchi; Hiroshi	Tokyo			JP
Yamauchi; Hitoshi	Tokyo			JP
Yachi; Kiyoto	Chiba			JP
Honda; Hiroshi	Matsudo			JP
Suzuki; Norio	Chiba			JP
Hoshio; Akinori	Kanagawa-ken			JP
Hirose; Takazo	Kanagawa-ken			JP

US-CL-CURRENT: 210/321.75; 156/253, 156/308.4, 210/149, 210/321.84, 210/484, 210/498,  
264/4.3, 424/450

[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Sequences](#) | [Attachments](#) | [KMC](#) |  
[Draw Desc](#) | [Image](#) |

8. Document ID: US 5580575 A

L5: Entry 8 of 27

File: USPT

Dec 3, 1996

US-PAT-NO: 5580575

DOCUMENT-IDENTIFIER: US 5580575 A

TITLE: Therapeutic drug delivery systems

DATE-ISSUED: December 3, 1996

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Unger; Evan C.	Tucson	AZ		
Fritz; Thomas A.	Tucson	AZ		
Matsunaga; Terry	Tucson	AZ		
Ramaswami; VaradaRajan	Tucson	AZ		
Yellowhair; David	Tucson	AZ		
Wu; Guanli	Tucson	AZ		

US-CL-CURRENT: 424/450

[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Sequences](#) | [Attachments](#) | [KMC](#) |  
[Draw Desc](#) | [Image](#) |

9. Document ID: US 5571497 A

L5: Entry 9 of 27

File: USPT

Nov 5, 1996

US-PAT-NO: 5571497

DOCUMENT-IDENTIFIER: US 5571497 A

TITLE: Liposomes as contrast agents for ultrasonic imaging and apparatus and methods for preparing the same

DATE-ISSUED: November 5, 1996

INVENTOR-INFORMATION:

NAME Unger; Evan C.	CITY Tucson	STATE AZ	ZIP CODE	COUNTRY
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US-CL-CURRENT: 423/87; 205/586

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
Draw Desc   Image									KUMC

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 10. Document ID: US 5556580 A

L5: Entry 10 of 27

File: USPT

Sep 17, 1996

US-PAT-NO: 5556580

DOCUMENT-IDENTIFIER: US 5556580 A

TITLE: Liposome continuous size reduction method and apparatus

DATE-ISSUED: September 17, 1996

## INVENTOR-INFORMATION:

NAME Suddith; Robert L.	CITY Robbinsville	STATE NJ	ZIP CODE	COUNTRY
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US-CL-CURRENT: 264/4.3; 264/4.1, 424/450, 425/5, 436/829

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
Draw Desc   Image									KUMC

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 11. Document ID: US 5554382 A

L5: Entry 11 of 27

File: USPT

Sep 10, 1996

US-PAT-NO: 5554382

DOCUMENT-IDENTIFIER: US 5554382 A

TITLE: Methods and apparatus for making liposomes

DATE-ISSUED: September 10, 1996

## INVENTOR-INFORMATION:

NAME Castor; Trevor P.	CITY Arlington	STATE MA	ZIP CODE	COUNTRY
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US-CL-CURRENT: 424/450; 264/4.1, 264/4.3, 264/4.6, 424/45, 425/5

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
Draw Desc   Image									KUMC

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 12. Document ID: US 5542935 A

L5: Entry 12 of 27

File: USPT

Aug 6, 1996

US-PAT-NO: 5542935

DOCUMENT-IDENTIFIER: US 5542935 A

TITLE: Therapeutic delivery systems related applications

DATE-ISSUED: August 6, 1996

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Unger; Evan C.	Tucson	AZ		
Fritz; Thomas A.	Tucson	AZ		
Matsunaga; Terry	Tucson	AZ		
Ramaswami; VaradaRajan	Tucson	AZ		
Yellowhair; David	Tucson	AZ		
Wu; Guanli	Tucson	AZ		

US-CL-CURRENT: 604/190; 424/450, 600/458

[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Sequences](#) | [Attachments](#) | [KWMC](#) |  
[Draw Desc](#) | [Image](#)

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13. Document ID: US 5456901 A

L5: Entry 13 of 27

File: USPT

Oct 10, 1995

US-PAT-NO: 5456901

DOCUMENT-IDENTIFIER: US 5456901 A

TITLE: Liposomes as contrast agents for ultrasonic imaging

DATE-ISSUED: October 10, 1995

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Unger; Evan C.	Tucson	AZ	85749	

US-CL-CURRENT: 424/9.51; 424/450, 600/458

[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Sequences](#) | [Attachments](#) | [KWMC](#) |  
[Draw Desc](#) | [Image](#)

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14. Document ID: US 5352435 A

L5: Entry 14 of 27

File: USPT

Oct 4, 1994

US-PAT-NO: 5352435

DOCUMENT-IDENTIFIER: US 5352435 A

TITLE: Ionophore containing liposomes for ultrasound imaging

DATE-ISSUED: October 4, 1994

INVENTOR-INFORMATION:

NAME Unger; Evan C.	CITY Tucson	STATE AZ	ZIP CODE 85749	COUNTRY
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US-CL-CURRENT: 424/9.51; 424/450, 600/448

<a href="#">Full</a>	<a href="#">Title</a>	<a href="#">Citation</a>	<a href="#">Front</a>	<a href="#">Review</a>	<a href="#">Classification</a>	<a href="#">Date</a>	<a href="#">Reference</a>	<a href="#">Sequences</a>	<a href="#">Attachments</a>
<a href="#">Draw Desc</a>   <a href="#">Image</a>									KMC

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 15. Document ID: US 5348016 A

L5: Entry 15 of 27

File: USPT

Sep 20, 1994

US-PAT-NO: 5348016

DOCUMENT-IDENTIFIER: US 5348016 A

TITLE: Apparatus for preparing gas filled liposomes for use as ultrasonic contrast agents

DATE-ISSUED: September 20, 1994

## INVENTOR-INFORMATION:

NAME Unger; Evan C.	CITY Tucson	STATE AZ	ZIP CODE 85749	COUNTRY
Wu; Guanli	Tucson	AZ	85749	

US-CL-CURRENT: 600/448; 264/4.6, 436/829

<a href="#">Full</a>	<a href="#">Title</a>	<a href="#">Citation</a>	<a href="#">Front</a>	<a href="#">Review</a>	<a href="#">Classification</a>	<a href="#">Date</a>	<a href="#">Reference</a>	<a href="#">Sequences</a>	<a href="#">Attachments</a>
<a href="#">Draw Desc</a>   <a href="#">Image</a>									KMC

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 16. Document ID: US 5334381 A

L5: Entry 16 of 27

File: USPT

Aug 2, 1994

US-PAT-NO: 5334381

DOCUMENT-IDENTIFIER: US 5334381 A

TITLE: Liposomes as contrast agents for ultrasonic imaging and methods for preparing the same

DATE-ISSUED: August 2, 1994

## INVENTOR-INFORMATION:

NAME Unger; Evan C.	CITY Tucson	STATE AZ	ZIP CODE 85749	COUNTRY
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US-CL-CURRENT: 424/9.51; 264/4.1, 264/4.3, 424/450, 428/402, 600/431

<a href="#">Full</a>	<a href="#">Title</a>	<a href="#">Citation</a>	<a href="#">Front</a>	<a href="#">Review</a>	<a href="#">Classification</a>	<a href="#">Date</a>	<a href="#">Reference</a>	<a href="#">Sequences</a>	<a href="#">Attachments</a>
<a href="#">Draw Desc</a>   <a href="#">Image</a>									KMC

17. Document ID: US 5305757 A

L5: Entry 17 of 27

File: USPT

Apr 26, 1994

US-PAT-NO: 5305757

DOCUMENT-IDENTIFIER: US 5305757 A

TITLE: Gas filled liposomes and their use as ultrasonic contrast agents

DATE-ISSUED: April 26, 1994

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Unger; Evan C.	Tucson	AZ	85749	
Wu; Guanli	Tucson	AZ	85745	

US-CL-CURRENT: 424/9.51; 428/402, 600/458

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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 18. Document ID: US 5230882 A

L5: Entry 18 of 27

File: USPT

Jul 27, 1993

US-PAT-NO: 5230882

DOCUMENT-IDENTIFIER: US 5230882 A

TITLE: Liposomes as contrast agents for ultrasonic imaging and methods for preparing the same

DATE-ISSUED: July 27, 1993

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Unger; Evan C.	Tucson	AZ	85749	

US-CL-CURRENT: 424/9.51; 424/450, 514/150, 514/546, 600/458

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
Draw Desc	Image								

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 19. Document ID: US 5228446 A

L5: Entry 19 of 27

File: USPT

Jul 20, 1993

US-PAT-NO: 5228446

DOCUMENT-IDENTIFIER: US 5228446 A

TITLE: Gas filled liposomes and their use as ultrasonic contrast agents

DATE-ISSUED: July 20, 1993

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Unger; Evan C.	Tucson	AZ	85749	
Wu; Guanli	Tucson	AZ	85745	

US-CL-CURRENT: 424/9.51; 264/4.6, 424/450

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
Draw Desc	Image								

KMC

20. Document ID: US 5227372 A

L5: Entry 20 of 27

File: USPT

Jul 13, 1993

US-PAT-NO: 5227372

DOCUMENT-IDENTIFIER: US 5227372 A

TITLE: Method for retaining ophthalmological agents in ocular tissues

DATE-ISSUED: July 13, 1993

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Folkman; Judah M.	Brookline	MA		

US-CL-CURRENT: 514/58; 514/778, 514/912, 536/103

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
Draw Desc	Image								

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21. Document ID: US 5209720 A

L5: Entry 21 of 27

File: USPT

May 11, 1993

US-PAT-NO: 5209720

DOCUMENT-IDENTIFIER: US 5209720 A

TITLE: Methods for providing localized therapeutic heat to biological tissues and fluids using gas filled liposomes

DATE-ISSUED: May 11, 1993

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Unger; Evan C.	Tucson	AZ	85749	

US-CL-CURRENT: 604/20; 424/450, 600/431, 600/438, 600/439, 601/3, 604/19, 604/22,  
604/500

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
Draw Desc	Image								

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22. Document ID: US 5123414 A

L5: Entry 22 of 27

File: USPT

Jun 23, 1992

US-PAT-NO: 5123414

DOCUMENT-IDENTIFIER: US 5123414 A

TITLE: Liposomes as contrast agents for ultrasonic imaging and methods for preparing the same

DATE-ISSUED: June 23, 1992

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Unger; Evan C.	Tucson	AZ	85749	

US-CL-CURRENT: 600/431; 264/4.1, 264/4.3, 424/450, 424/9.51

<a href="#">Full</a>	<a href="#">Title</a>	<a href="#">Citation</a>	<a href="#">Front</a>	<a href="#">Review</a>	<a href="#">Classification</a>	<a href="#">Date</a>	<a href="#">Reference</a>	<a href="#">Sequences</a>	<a href="#">Attachments</a>	<a href="#">KUMC</a>	
<a href="#">Draw</a>	<a href="#">Desc</a>	<a href="#">Image</a>									

 23. Document ID: US 5088499 A

L5: Entry 23 of 27

File: USPT

Feb 18, 1992

US-PAT-NO: 5088499

DOCUMENT-IDENTIFIER: US 5088499 A

TITLE: Liposomes as contrast agents for ultrasonic imaging and methods for preparing the same

DATE-ISSUED: February 18, 1992

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Unger; Evan C.	Tucson	AZ	85749	

US-CL-CURRENT: 424/9.51; 424/44, 424/450, 436/829

<a href="#">Full</a>	<a href="#">Title</a>	<a href="#">Citation</a>	<a href="#">Front</a>	<a href="#">Review</a>	<a href="#">Classification</a>	<a href="#">Date</a>	<a href="#">Reference</a>	<a href="#">Sequences</a>	<a href="#">Attachments</a>	<a href="#">KUMC</a>	
<a href="#">Draw</a>	<a href="#">Desc</a>	<a href="#">Image</a>									

 24. Document ID: US 4895719 A

L5: Entry 24 of 27

File: USPT

Jan 23, 1990

US-PAT-NO: 4895719

DOCUMENT-IDENTIFIER: US 4895719 A

TITLE: Method and apparatus for administering dehydrated liposomes by inhalation

DATE-ISSUED: January 23, 1990

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Radhakrishnan; Ramachandran	Fremont	CA		
Mihalko; Paul J.	Fremont	CA		
Abra; Robert M.	San Francisco	CA		

US-CL-CURRENT: 424/45; 514/958, 514/959, 604/140

<a href="#">Full</a>	<a href="#">Title</a>	<a href="#">Citation</a>	<a href="#">Front</a>	<a href="#">Review</a>	<a href="#">Classification</a>	<a href="#">Date</a>	<a href="#">Reference</a>	<a href="#">Sequences</a>	<a href="#">Attachments</a>
<a href="#">Draw Desc</a>	<a href="#">Image</a>								

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25. Document ID: US 4737276 A

L5: Entry 25 of 27

File: USPT

Apr 12, 1988

US-PAT-NO: 4737276

DOCUMENT-IDENTIFIER: US 4737276 A

TITLE: Apparatus for manufacturing liposomes

DATE-ISSUED: April 12, 1988

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Adamich; Marina	Boothwyn	PA		
Bach; David T.	Wilmington	DE		

US-CL-CURRENT: 210/96.2; 210/321.72, 210/321.83

<a href="#">Full</a>	<a href="#">Title</a>	<a href="#">Citation</a>	<a href="#">Front</a>	<a href="#">Review</a>	<a href="#">Classification</a>	<a href="#">Date</a>	<a href="#">Reference</a>	<a href="#">Sequences</a>	<a href="#">Attachments</a>
<a href="#">Draw Desc</a>	<a href="#">Image</a>								

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26. Document ID: US 4622188 A

L5: Entry 26 of 27

File: USPT

Nov 11, 1986

US-PAT-NO: 4622188

DOCUMENT-IDENTIFIER: US 4622188 A

TITLE: Method for manufacturing liposomes

DATE-ISSUED: November 11, 1986

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Adamich; Marina	Boothwyn	PA		
Bach; David T.	Wilmington	DE		

US-CL-CURRENT: 264/4.6; 210/96.2, 422/108, 422/110, 422/111, 422/62, 424/450, 436/829

<a href="#">Full</a>	<a href="#">Title</a>	<a href="#">Citation</a>	<a href="#">Front</a>	<a href="#">Review</a>	<a href="#">Classification</a>	<a href="#">Date</a>	<a href="#">Reference</a>	<a href="#">Sequences</a>	<a href="#">Attachments</a>
<a href="#">Draw Desc</a>	<a href="#">Image</a>								

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27. Document ID: JP 04293537 A

L5: Entry 27 of 27

File: JPAB

Oct 19, 1992

PUB-NO: JP404293537A

DOCUMENT-IDENTIFIER: JP 04293537 A

TITLE: APPARATUS AND METHOD FOR PREPARING LIPOSOME

PUBN-DATE: October 19, 1992

## INVENTOR-INFORMATION:

NAME

COUNTRY

SASAKI, TOSHIYUKI

HONDA, YOSHIHIKO

AHIKO, KENKICHI

INT-CL (IPC): B01J 13/02; C12N 11/02

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	KMC
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Terms	Documents
L1 and chamber	27

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